



PATENT ABSTRACTS OF JAPAN

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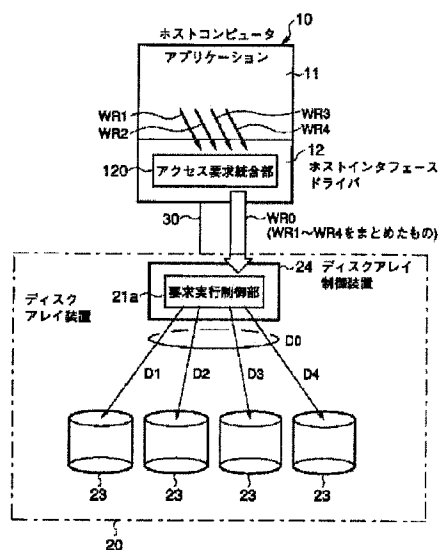
(54) COMPUTER SYSTEM

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(57) Abstract:

PROBLEM TO BE SOLVED: To improve the rate of data transfer by reducing the number of time of the generation of protocol processing through a host interface bus connecting a host computer with an outer storage device.

SOLUTION: Upon receiving disk write requests WR1-WR4 generated by an application 11 of a host computer 10 by a host interface driver 12, an access request unifying part 120 unifies the requests WR1-WR4 into one disk write request WR0, and transmits it through a host interface bus 30 to a disk array device 20. Upon receiving the request WR0 by a disk array controller 24 of the disk array device 20, a request execution controlling part 21a (equivalently) divides the request WR0 into the original request WR1-WR4, and writes data D1-D4 in the areas of the hard disk device 23 designated by the requests WR1-WR4.



(citation 4)

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Applicant: TOSHIBA Corporation

Title of the Invention: Computer System

(Claim 1)

A computer system that performs data transfers between a host computer (10) and an external storage device (20) through a host interface bus (30), the computer system comprising:

a host interface driver (12) provided to said host computer and including access request integration means for integrating a plurality of access requests (WR1-WR4) to said external storage device (20) generated from said host computer (10) into one access request (WR0) and transmitting it to said external storage device (20) through the host interface bus (30); and

a controller (21a) provided to said external storage device (20) and configured to control execution of the requested external storage accesses (WR1-WR4) by analyzing the access request (WR0) transmitted from said host interface driver (12).

(Abridgment of the description)

With reference to Figs. 3 and 4, the operation performed in response to a disk access request will be described.

As shown in Fig. 3, it is assumed that a plurality of disk access requests, for example, four disk access requests (write requests WR1-WR4) are sequentially generated from an application 11 being executed on a host computer 10, and the write requests specify write operations to a disk array device 20. The write requests WR1-WR4 are passed to a host interface driver 12 via an operating system (not shown) of the host computer 10.

In response to the reception of the write requests WR1-WR4 from the application 11, an access request integration unit 120 determines if the requested disk areas are contiguous. If they are contiguous, the access request integration unit 120 integrates (translates) the received write requests WR1-WR4 into a new disk access request WR0. As shown in Fig. 3, the new disk access request is then transmitted to a disk array device 20 through a host bus interface 30. A host interface driver 12 performs a protocol translation of the disk access request between the host computer 10 and the disk array device 20, and the protocol translation is unique to the host interface bus 30. In prior art, such protocol translation is necessary for each of the disk access requests WR1-WR4. According to the present invention, a plurality of disk access requests may be integrated into one disk access request, and therefore the time required for protocol translation may be reduced.